

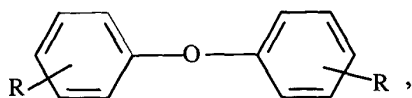
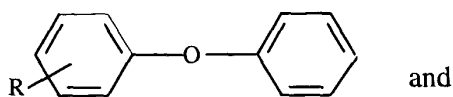
We claim:

1. A method for viscosity control in an alkyl diphenyl oxide sulfonic acid, comprising the step of:

5 admixing a fatty acid having a carboxylic chain length between 1 and 12 into the alkyl diphenyl oxide sulfonic acid blend to provide between about 5 weight percentage and about 50 weight percentage of fatty acid in the admixture.

2. A method for preparation of an alkyl diphenyl oxide sulfonic acid blend comprising the steps of:

10 admixing a fatty acid selected from the group consisting of formic acid, acetic acid, propionic acid, butanoic acid, pentanoic acid, valeric acid, hexanoic acid, heptanoic acid, octanoic acid, nonanoic acid, decanoic acid, undecanoic acid, and dodecanoic acid to provide between about 5 weight percentage and about 50 weight percentage of fatty acid
15 in the admixture with an alkyl diphenyl oxide comprising



where R is an alkyl radical having between 6 and 16 carbon atoms; and

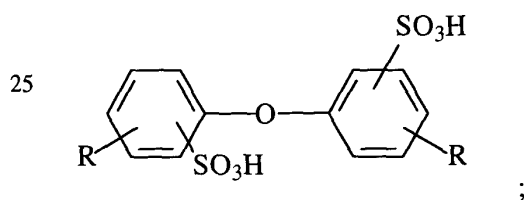
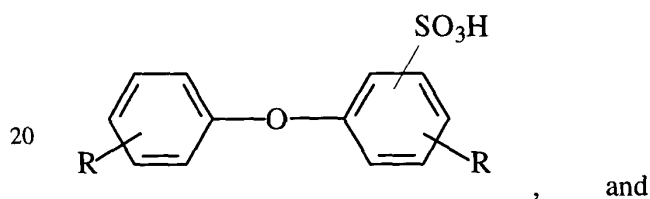
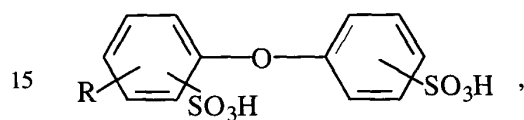
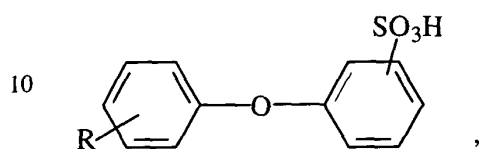
25 sulfonating said admixture with a sulfonating agent.

3. The method of Claim 2 wherein a plurality of said fatty acids are admixed in said admixing step with said alkyl diphenyl oxide blend.

4. A method for preparation of an alkyl diphenyl oxide sulfonic acid blend comprising the steps of:

admixing a fatty acid selected from the group consisting of formic acid, acetic acid, propionic acid, butanoic acid, pentanoic acid, valeric acid, hexanoic acid, heptanoic acid,

5 octanoic acid, nonanoic acid, decanoic acid, undecanoic acid, and dodecanoic acid to provide between about 5 weight percentage and about 50 weight percentage of fatty acid in an admixture with an alkyl diphenyl oxide sulfonic acid blend comprising

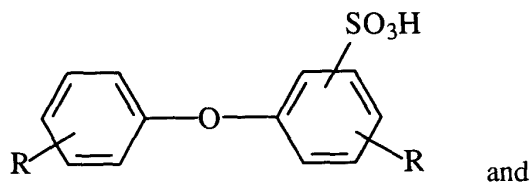


where R is an alkyl radical having between 6 and 16 carbon atoms.

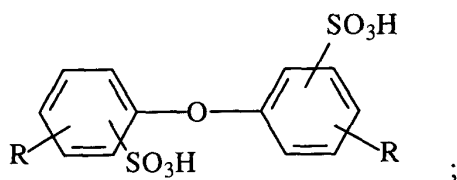
5. The method of Claim 4 wherein a plurality of said fatty acids are admixed
admixed in said admixing step with said alkyl diphenyl oxide sulfonic acid blend.

6. The method of either of Claims 4 or 5 wherein the alkyl diphenyl oxide sulfonic
acid blend prior to admixing of said fatty acid comprises:

between about 5 to about 25 weight percent

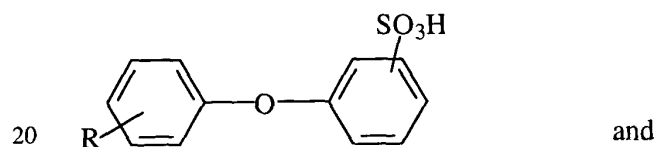


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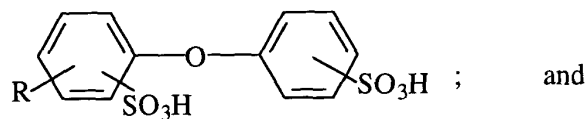


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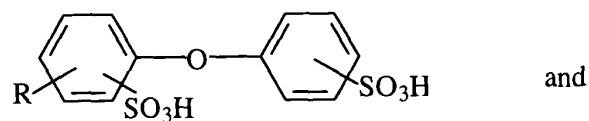
between about 75 to about 95 respective weight percent

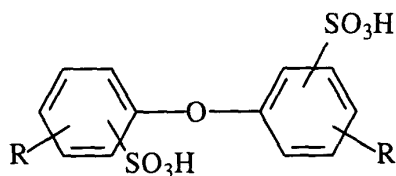


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25 greater than 85 weight percent

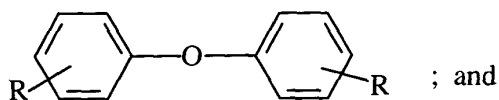




7. The method of either of Claims 2 or 3 wherein the alkyl diphenyl oxide blend prior to admixing of said fatty acid comprises:

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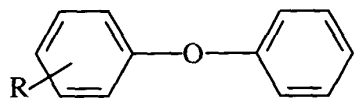
between about 5 to about 25 weight percent



; and

10

between about 75 to about 95 respective weight percent



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8. An alkyl diphenyl oxide sulfonic acid blend having between about 5 weight percentage and about 50 weight percentage of a fatty acid with a carboxylic chain length between 1 and 12.

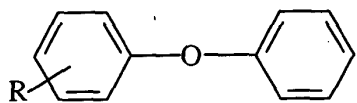
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9. An admixture composition of:

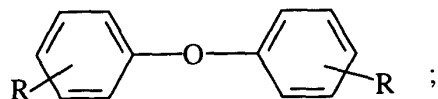
a fatty acid selected from the group consisting of formic acid, acetic acid, propionic acid, butanoic acid, pentanoic acid, valeric acid, hexanoic acid, heptanoic acid, octanoic acid, nonanoic acid, decanoic acid, undecanoic acid, and dodecanoic acid to provide between

25 about 5 weight percentage and about 50 weight percentage of fatty acid in the admixture composition; and

alkyl diphenyl oxide comprising



and



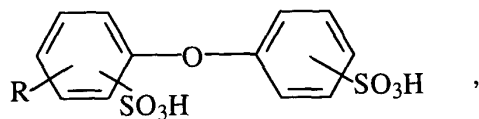
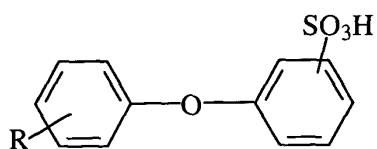
where R is an alkyl radical having between 6 and 16 carbon atoms.

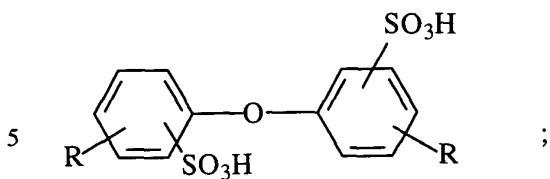
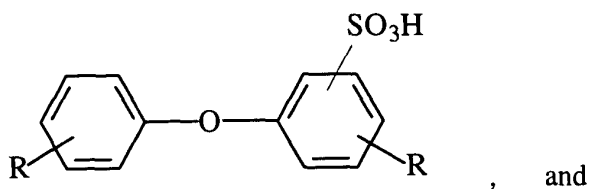
10. The admixture composition of Claim 9 having a plurality of said fatty acids.

11. An alkyl diphenyl oxide sulfonic acid blend comprising:

a fatty acid selected from the group consisting of formic acid, acetic acid, propionic acid, butanoic acid, pentanoic acid, valeric acid, hexanoic acid, heptanoic acid, octanoic acid, nonanoic acid, decanoic acid, undecanoic acid, and dodecanoic acid to provide between about 5 weight percentage and about 50 weight percentage of fatty acid in the blend; and

alkyl diphenyl oxide sulfonic acid comprising



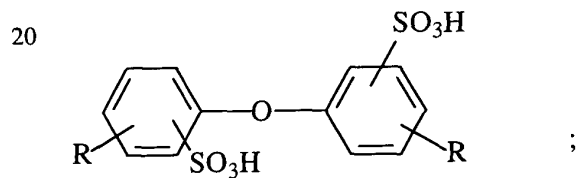
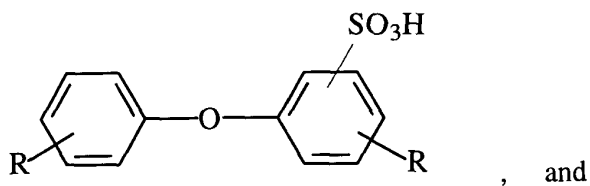


where R is an alkyl radical having between 6 and 16 carbon atoms.

10 12. The blend of Claim 11 having a plurality of said fatty acids.

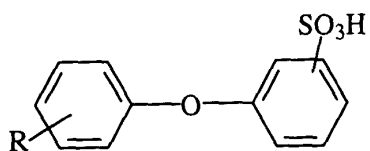
13. The blend of either of Claims 11 or 12 wherein the alkyl diphenyl oxide sulfonic acid blend without consideration of the weight of said fatty acid comprises:

15 between about 5 to about 25 weight percent



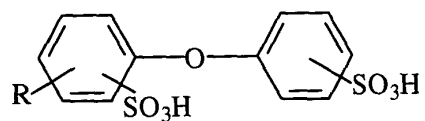
between about 75 to about 95 respective weight percent

25



and

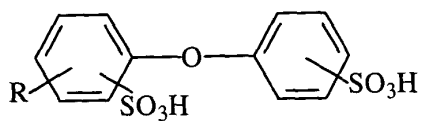
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; and

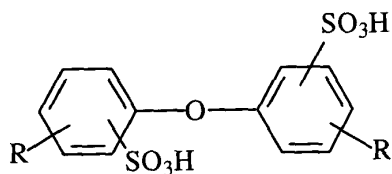
greater than about 85 weight percent

10



and

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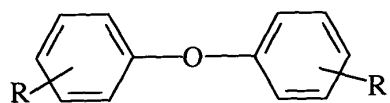


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14. The method of either of Claims 2 or 3 wherein the alkyl diphenyl oxide blend without consideration of the weight of said fatty acid comprises:

between about 5 to about 25 weight percent

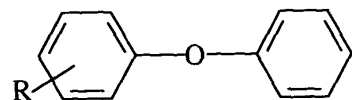
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; and

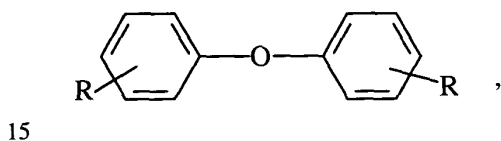
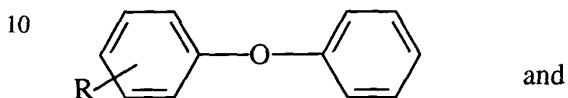
between about 75 to about 95 respective weight

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15. A method for preparation of a surfactant comprising the steps of:

admixing a fatty acid selected from the group consisting of formic acid, acetic acid,
5 propionic acid, butanoic acid, pentanoic acid, valeric acid, hexanoic acid, heptanoic acid,
octanoic acid, nonanoic acid, decanoic acid, undecanoic acid, and dodecanoic acid to
provide between about 5 weight percentage and about 50 weight percentage of fatty acid
in an admixture with an alkyl diphenyl oxide comprising



where R is an alkyl radical having between 6 and 16 carbon atoms;

sulfonating said admixture with a sulfonating agent;

blending the sulfonated admixture into water; and

neutralizing the blend of water and sulfonated admixture.

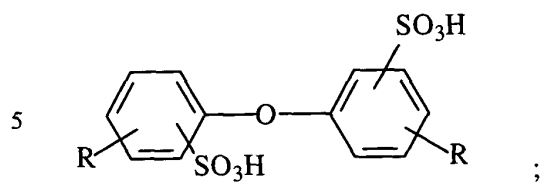
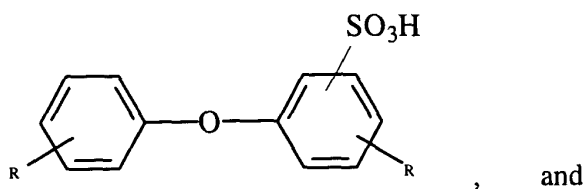
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16. A method for preparation of a surfactant comprising the steps of:

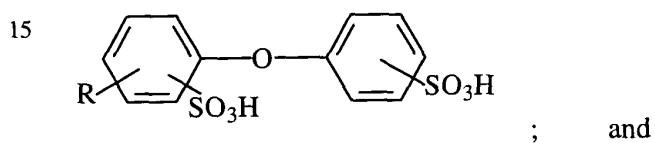
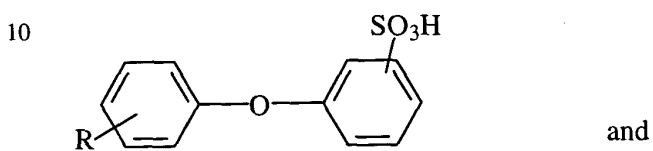
admixing a fatty acid selected from the group consisting of formic acid, acetic acid,
propionic acid, butanoic acid, pentanoic acid, valeric acid, hexanoic acid, heptanoic acid,
25 octanoic acid, nonanoic acid, decanoic acid, undecanoic acid, and dodecanoic acid to
provide between about 5 weight percentage and about 50 weight percentage of fatty acid
in an admixture with an alkyl diphenyl oxide sulfonic acid blend comprising

between about 5 to about 25 weight percent

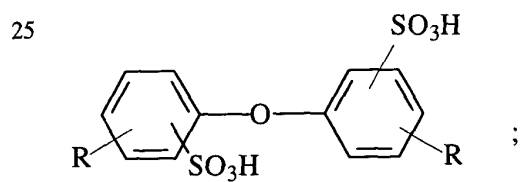
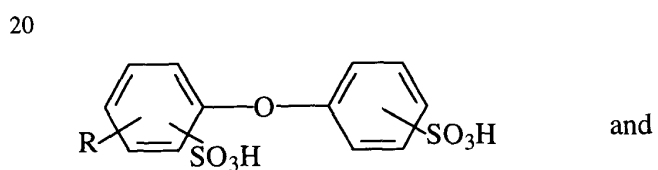
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between about 75 to about 95 respective weight percent



greater than about 85 weight percent



blending the sulfonated admixture into water; and
neutralizing the blend of water and sulfonated admixture;
where R is an alkyl radical having between 6 and 16 carbon atoms.

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